

CLAIMS:

- 5 1. A medical viewing system comprising data acquisition means and data processing means for acquiring and processing image data in an image of an object whose surface comprises at least a folded portion, said data processing means comprising:
- segmentation means for segmenting the image data whereby to identify the object surface;
- 10 processing means for approximating said segmented object surface data for determining a reference surface, which represents an approximated surface of said object surface devoid of the folded portions while comprising at least one flat patch;
- analysing means for determining points, for each patch of the reference surface, where the normal to the patch intersects the object surface and for identifying as a patch
- 15 corresponding to a folded portion a patch of the reference surface that has a normal intersecting the object surface at more than one point;
- said medical viewing system further comprising image visualisation means for visualising the object images and/or the processed images.
- 20 2. The medical viewing system of Claim 1, further comprising data processing means for assigning, to the patches corresponding to the folded portions, called fold-portion patches, code values adapted to produce a first visual indication, at locations corresponding to said fold-portion patches, when image data corresponding to the reference surface is visualised.
- 25 3. The medical viewing system of one of Claims 1 or 2, further comprising data processing means for determining fold-attribute data relating to patches of the reference surface identified as fold-portion patches.
4. The medical viewing system of Claim 3, wherein the determined fold-attribute data
- 30 includes the number of points at which the normal to the patch of the reference surface crosses the object surface and/or the respective distances between the reference surface and the points at which the normal to the patch of the reference surface crosses the object surface and/or the distance between selected points at which the normal to the patch of the reference surface crosses the object surface.

5. The medical viewing system of one of claims 3 or 4, wherein the data processing means for identifying the patch corresponding to the fold-portion and the data processing means for determining the fold-attribute data comprises threshold means to take into account only points no further than a threshold distance away from the reference surface.

6. The medical viewing system of any one of Claims 3 to 5, further comprising selection means for selecting one or more types of fold-attribute data, when image data corresponding to the reference surface is visualised.

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7. The medical viewing system of Claim 6, further comprising coding means for assigning, to the selected one or more types of fold-attribute data, code values adapted to produce a respective different second visual indication, at locations corresponding to said fold-portion patches, when image data corresponding to the reference surface is visualised.

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8. The medical viewing system of any one of claims 3 to 7, further comprising data processing means for:

providing a database of potential abnormalities and associated sets of fold-attribute data;

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comparing fold-attribute data determined for the fold-portion patches with one or more of the sets of fold-attribute data of the database and, when a match is found for a first fold-portion patch, associating a potential-abnormality-flag with the first fold-portion patch.

9. The medical viewing system of one of claims 1 to 8, wherein the image visualisation means comprises a display device and/or a printing device.

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10. The medical viewing system of one of claims 1 to 9, implemented as a specially programmed general-purpose computer.

11. An image processing method to cause the data processing means of the medical viewing system of one of Claims 1 to 10 to perform steps of acquiring and processing image data in an object image of an object whose surface comprises at least a folded portion, wherein processing comprises:

segmenting the image data whereby to identify the object surface;

processing the object surface data for determining a reference surface, which represents an approximated surface of the object surface devoid of folded portions while comprising at least one flat patch;

5 for each patch of the reference surface, determining points where the normal to the patch intersects the object surface; and

identifying as a patch corresponding to a folded portion a patch of the reference surface that has a normal intersecting the object surface at more than one point.

12. A medical examination apparatus comprising acquisition means for acquiring medical
10 image data, imaging means for displaying the medical images, and a medical viewing system according to one of Claims 1 to 10.

13. A computer program product having a set of instructions, when in use on a general-
purpose computer, to cause the computer to perform the steps of the method according to
15 Claim 11.